WHEAT AND BARLEY LEAF DISEASES
THE SASKATCHEWAN SITUATION

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Leaf diseases of wheat and barley in Saskatchewan were both prominent and widespread in 1983, as they were in more localised areas in 1982. A major responsible factor is abundant moisture remaining on the leaf surface, either as dew or rain, which favours infection at all stages until shortly after heading. In addition, intense downpours promoted upward spore dispersal within the canopy and inter-plant disease spread.

The Septoria complex (glume blotch and speckled leaf blotch) was first identified in wheat at the end of June 1983, near Saskatoon, and shortly afterwards, infections were present in the Prince Albert, Melfort and Tisdale areas. Further outbreaks subsequently occurred in the west-central and southern regions of the province, but generally did not occur to the south of #1 highway. Symptom appearance was two weeks earlier in crops sown on wheat stubble than on summer fallow or other previous cropping. In observation plots north of Tisdale, the varieties Glenlea and Columbus showed least symptom development, followed by Manitou. Park and Pembina were consistently most severely attacked. Other commonly-grown wheat varieties showed intermediate reactions. Estimates of yield reduction range up to 13%, but are more likely to average 2-5%, depending on plant growth stage at time of infection.

Barley leaf diseases were common in all regions of Saskatchewan in 1983, and were severe in the north-east and north-west regions. Net blotch was the most prevalent, frequently in association with spot blotch. The two-row varieties Elrose and Klages were the most severely affected, and in some cases yields were reduced to 50% of anticipated levels, due to damaged photosynthetic area on the leaves and associated predisposal to drought and lodging problems. Disease build-up was most noticeable in continuous cropping situations.

Evidence suggests that cereal leaf diseases justify renewed attention from plant breeders, and alternative methods of disease control (e.g., fungicide application) will attract further study as yields increase in progressively intensive cropping systems.